Docket No.: 291958158US
Client Ref No. P01-0028

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Hanson et al.

Application No.: 09/872,151 Confirmation No.: 9156

Filed: May 31, 2001 Art Unit: 1742

For: APPARATUS AND METHOD FOR ELECTROCHEMICAL PROCESSING OF MICROELECTRONIC WORKPIECES Examiner: H. D. Wilkins, III

REQUEST TO RECONSIDER AND WITHDRAW DECISION DISMISSING PETITION UNDER 1.78(a)(3)

MS PETITIONS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The applicants request that the Petitions Examiner reconsider the Decision Dismissing Petitions Under 37 C.F.R. § 1.78(a)(3) mailed on August 23, 2006, regarding the applicant's Petition Under 37 C.F.R. § 1.78(a)(3) filed on April 21, 2006. As explained in more detail below, the applicant's petition filed on April 21, 2006, was dismissed without considering the Supplemental Amendment filed via facsimile on August 18, 2006, in which the priority claim was amended.

On April 21, 2006, the undersigned representative filed a Petition Under 37 C.F.R. § 1.78(a)(3) along with an Amendment in which the specification was amended to include a priority claim. The priority claim set forth in the April 21, 2006, Amendment claimed

priority to, among other applications, U.S. Application No. 10/158,220, filed on May 29, 2002, which claimed the benefit of U.S. Application No. 60/294,690, filed on May 30, 2001. The applicants became aware that it was improper to claim priority to U.S. Application No. 10/158,220 because it was filed after the present application. On August 18, 2006, the undersigned representative filed a Supplemental Amendment via facsimile to correct this error by deleting the priority claim to U.S. Application No. 10/158,220 (attached at Exhibit A). The corrected priority claim in the Supplemental Amendment directly claimed the benefit of provisional U.S. Application No. 60/294,690.

On August 22, 2006, Examiner Wilkins, III, suspended prosecution for three months. On August 23, 2006, the Commissioner for Patents issued the Decision Dismissing Petitions Under 37 C.F.R. §§ 1.78(a)(3) and (a)(6) on the following grounds: (1) the priority claim to U.S. Application No. 10/158,220 was improper because the claim must be made to a "prior-filed" application; and (2) the claim for the benefit of provisional U.S. Application No. 60/294,690 was improper because the present application was filed more than 12 months from the filing date of the provisional application.

The applicants respectfully submit that the decision to dismiss the applicants' Petition Under 37 C.F.R. § 1.78(a)(3) filed on April 21, 2006, is incorrect in light of the Supplemental Amendment filed on August 18, 2006. The Supplemental Amendment amended the application to delete the priority claim to U.S. Application No. 10/158,220. As such, the first reason for rejecting the applicants' petition under 37 C.F.R. § 1.78(a)(3) was obviated by the Supplemental Amendment. Additionally, the priority claim to provisional U.S. Application No. 60/294,690 is proper because the present application was filed only one day after the filing date of this provisional application. The present application, therefore, was not filed more than 12 months from the filing date of the provisional application.

In light of the foregoing, the applicants respectfully request reconsideration of the petition filed April 21, 2006, in view of the Supplemental Amendment filed on August 18, 2006. The applicants further request withdrawal of the Decision Dismissing Petitions

Under 37 C.F.R. §§ 1.78(a)(3) and (a)(6) at this point because the suspension of prosecution has now lapsed. If the Petitions Examiner has any quest ons regarding this request. he or she is encouraged to contact the undersigned attorney at (206) 359-3258

Dated: 27 December 2006

Respectfully submitted,

By P_ / P_ _

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EXHIBIT A

TO:Auto-reply fax to 206 359 9000 COMPANY:

Auto-Reply Facsimile Transmission

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DATE: August 18, 2006 COVER SHEET & 16 PAGE(S)

CLIENT NUMBER: 29185-8158US

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SENDER:	TELEPHONE:	FACSIMILE:
Melody Almberg		

RECIPIENT:	COMPANY:	TELEPHONE:	FACSIMILE:
USPTO			571-273-8300

RE: US Application No. 09/972,131
Filed: May 31, 2001
First Named Inventor: Kyle M. Hanson
Attorney Docket No. 29185-8158US

Transmitted herewith is a Supplemental Amendment. Please process.

[FAXCOVER.01]

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/872,151-Conf. #9156
Filing Date	May 31, 2001
First Named Inventor	Kyle M. Hanson
Art Unit	1742
Examiner Name	H. D. Wilkins
Attorney Docket Number	291958158US

Total Number of Pages in This Submission: 16

ENCLOSURES (*Check all that apply*)

- [ ] Fee Transmittal Form
- [ ] Fee Attached
- [ ] Amendment/Reply
- [ ] After Final
- [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
- [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
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- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
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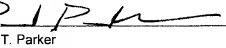
- [ ] Status Letter
- [x] Other Enclosure(s) (please Identify below)

Supplemental Amendment (15 pgs)

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	PERKINS COIE LLP		
Signature			
Printed name	Paul T. Parker		
Date	August 18, 2006	Reg. No.	38,264

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Dated: 8/18/06 Signature: Melody J Kimberg
(Melody Almberg)

Docket No.: 291958158US
Client Ref No. P01-0028

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
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Application No.: 09/872,151 Confirmation No.: 9156

Filed: May 31, 2001 Art Unit: 1742

For: APPARATUS AND METHOD FOR ELECTROCHEMICAL PROCESSING OF MICROELECTRONIC WORKPIECES Examiner: H. D. Wilkins

SUPPLEMENTAL AMENDMENT

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir

INTRODUCTORY COMMENTS

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

Amendments to the Specification begin on page 2 of this paper.

Remarks/Arguments begin on page 15 of this paper.

AMENDMENTS TO THE SPECIFICATION

Please amend the following:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. App. No. 09/804,697, entitled "SYSTEM FOR ELECTROCHEMICALLY PROCESSING A WORKPIECE," filed on March 12. 2001; which is a continuation of International Application No. PCT/US00/10120, filed on April 13, 2000, in the English language and published in the English language as International Publication No. WO00/61498, which claims the benefit of Provisional Application No. 60/129,055, filed on April 13, 1999, all of which are herein incorporated by reference. This application ~~is also a continuation-in-part of U.S. Application No. 10/158,220, filed on May 29, 2002, which~~ also claims the benefit of U.S. Application No. 60/294,690, filed on May 30, 2001.

PENDING CLAIMS

1. (Cancelled)

2. (Previously Presented) The apparatus of claim 12, further comprising a primary flow guide including:

a first baffle having a plurality of first apertures through which at least the primary flow can pass; and

a second baffle downstream from the first baffle, the second baffle having a plurality of second apertures through which the primary flow can pass after passing through the first apertures.

3. (Previously Presented) The apparatus of claim 12, further comprising a primary flow guide including:

an annular outer baffle centered on a common axis, the outer baffle having a plurality of first apertures; and

an annular inner baffle positioned concentrically inside the outer baffle, the inner baffle having a plurality of second apertures, wherein the primary flow passes through the first apertures of the outer baffle and then through the second apertures of the inner baffle.

4. (Previously Presented) The apparatus of claim 12, further comprising a primary flow guide including:

an annular outer baffle centered on a common axis, the outer baffle having a plurality of generally vertical slots; and

an annular inner baffle positioned concentrically inside the outer baffle, the inner baffle having an inverted frusto-conical shaped wall with a plurality of annularly extending radial slots that slant upward relative to the common

axis, wherein the primary flow passes through the vertical slots of the outer baffle and then through the annular slots of the inner baffle to project radially inward and upward relative to the common axis along a plurality of diametrically opposed vectors.

5. (Previously Presented) The apparatus of claim 12 wherein the field shaping unit comprises a dielectric wall disposed within an outer wall of the reaction vessel and the electrode compartment is between the dielectric wall and the outer wall, wherein the secondary flow passes through the electrode compartment on one side of the dielectric wall and the primary flow passes on another side of the dielectric wall.

6. (Previously Presented) The apparatus of claim 12 wherein the field shaping unit comprises an annular wall in the reaction vessel, the annular wall being spaced radially inward of an outer wall to define a center opening centered on a common axis and the electrode compartment being between the annular wall and the outer wall such that the primary flow passes through the center opening and the secondary flow passes through the electrode compartment.

7. (Previously Presented) The apparatus of claim 12 wherein:

the field shaping unit comprises a first annular wall centered on a common axis in the reaction vessel, the first annular wall being spaced radially inward of an outer wall, and a second annular wall in the reaction vessel concentric with first annular wall and between the first annular wall and the outer wall, wherein an inner surface of the second annular wall defines an outer side of a first electrode compartment and an outer surface of the second annular wall defines an inner side of a second electrode compartment; and

the apparatus further comprises a first annular electrode in the first electrode compartment and a second annular electrode in the second electrode compartment.

8. (Previously Presented) The apparatus of claim 12 wherein:

the field shaping unit comprises -

a first annular wall in the reaction vessel centered on a common axis, the first annular wall being spaced radially inward of an outer wall of the reaction vessel,

a second annular wall in the reaction vessel concentric with first annular wall and between the first annular wall and the outer wall, wherein an inner surface of the second annular wall defines an outer side of a first electrode compartment and an outer surface of the second annular wall defines an inner side of a second electrode compartment, and

a virtual electrode unit having a first partition and a second partition, the first partition having a first lateral section coupled to the first and second annular walls and a first annular lip projecting from the first lateral section to define an interior flow path for the primary flow, and a second partition having a second lateral section above the first lateral section and a second annular lip projecting from the second lateral section, the second annular lip surrounding the first annular lip to define an annular opening therebetween; and

the apparatus further comprises a first annular electrode in the first electrode compartment and a second annular electrode in the second electrode compartment.

9. (Previously Presented) The apparatus of claim 12, further comprising a distributor coupled to the reaction vessel, the distributor having a central outlet defining the first outlet and a plurality of outer outlets defining second outlets.

10. (Original) The apparatus of claim 9 wherein the distributor comprises:

an inlet for receiving the primary flow and an annular cavity coupled to the inlet, the annular cavity defining the central outlet;

a plenum separate from the inlet for receiving the secondary flow, a plurality of upper orifices in an upper part of the plenum, a plurality of lower orifices in a lower part of the plenum, and a plurality of channels extending from the orifices to corresponding outer outlets.

11. (Original) The apparatus of claim 9 wherein the distributor comprises:

an annular body having a plurality of annular steps;

an inlet extending through the body for receiving the primary flow

a plenum separate from the inlet for receiving the secondary flow, a plurality of upper orifices in an upper part of the plenum, and a plurality of lower orifices in a lower part of the plenum; and

a plurality of channels extending from the orifices to corresponding outer outlets at the steps of the annular body.

12. (Previously Presented) A reactor apparatus for electrochemical processing of microelectronic workpieces, comprising:

a reaction vessel;

a first outlet configured to introduce a primary flow of a first processing solution into the reaction vessel;

at least one second outlet configured to introduce a secondary flow of a second processing solution different than the first processing solution into the reaction vessel separate from the primary flow;

a dielectric field shaping unit in the reaction vessel to receive the secondary flow from the second outlet, the field shaping unit being configured to contain the secondary flow separate from the primary flow through at least a portion of the reaction vessel, and the field shaping unit having at least one electrode

compartment through which the secondary flow can pass while the secondary flow is separate from the primary flow;

an electrode in the electrode compartment; and

an ion-membrane carried by the field shaping unit downstream from the electrode, the ion-membrane being in fluid communication with the second flow in the electrode compartment, and the ion-membrane being configured to be at least substantially impermeable to fluids of the secondary flow and the primary flow.

13-21. (Cancelled)

22. (Previously Presented) A reactor for an electrochemical processing chamber used to process microelectronic workpieces, comprising:

a reaction vessel;

a distributor in the reaction vessel, the distributor having a first outlet configured to introduce a primary flow into the reaction vessel and at least one second outlet configured to introduce a secondary flow into the reaction vessel separate from the primary flow;

a dielectric field shaping unit in the reaction vessel, the field shaping unit being configured to receive the secondary flow from the second outlet and contain the secondary flow separate from the primary flow through at least a portion of the reaction vessel, and the field shaping unit having at least one electrode compartment through which the secondary flow can pass while the secondary flow is separate from the primary flow;

an electrode in the electrode compartment; and

an ion-membrane member in the reaction vessel downstream from the electrode, the ion-membrane being in fluid communication with the secondary flow in the electrode compartment, and the ion-membrane being configured to be at

least substantially impermeable to fluids of the primary flow and the secondary flow.

23. (Original) The apparatus of claim 22, further comprising a primary flow guide including:

a first baffle having a plurality of first apertures through which at least the primary flow can pass; and

a second baffle downstream from the first baffle, the second baffle having a plurality of second apertures through which the primary flow can pass after passing through the first apertures.

24. (Original) The apparatus of claim 22, further comprising a primary flow guide including:

an annular outer baffle centered on a common axis, the outer baffle having a plurality of first apertures; and

an annular inner baffle positioned concentrically inside the outer baffle, the inner baffle having a plurality of second apertures, wherein the primary flow passes through the first apertures of the outer baffle and then through the second apertures of the inner baffle.

25. (Previously Presented) The apparatus of claim 22 wherein the field shaping unit comprises a dielectric wall disposed within an outer wall of the reaction vessel and the electrode compartment is between the dielectric wall and the outer wall, wherein the secondary flow passes through the electrode compartment on one side of the dielectric wall and the primary flow passes on another side of the dielectric wall.

26. (Previously Presented) The apparatus of claim 22 wherein:

the field shaping unit comprises a first annular wall centered on a common axis in the reaction vessel, the first annular wall being spaced radially inward of an outer wall of the reaction vessel, and a second annular wall in the reaction vessel concentric with first annular wall and between the first annular wall and the outer wall, wherein an inner surface of the second annular wall defines an outer side of a first electrode compartment and an outer surface of the second annular wall defines an inner side of a second electrode compartment; and

the apparatus further comprises a first annular electrode in the first electrode compartment and a second annular electrode in the second electrode compartment.

27. (Previously Presented) The apparatus of claim 22 wherein:

the field shaping unit comprises -

a first annular wall in the reaction vessel centered on a common axis, the first annular wall being spaced radially inward of an outer wall of the reaction vessel,

a second annular wall in the reaction vessel concentric with first annular wall and between the first annular wall and the outer wall, wherein an inner surface of the second annular wall defines an outer side of a first electrode compartment and an outer surface of the second annular wall defines an inner side of a second electrode compartment, and

a virtual electrode unit having a first partition and a second partition, the first partition having a first lateral section coupled to the first and second annular walls and a first annular lip projecting from the first lateral section to define an interior flow path for the primary flow, and a second partition having a second lateral section above the first lateral section and a second annular lip projecting from the second lateral

section, the second annular lip surrounding the first annular lip to define an annular opening therebetween; and

the apparatus further comprises a first annular electrode in the first electrode compartment and a second annular electrode in the second electrode compartment.

28. (Original) The apparatus of claim 22 wherein the distributor comprises:

an inlet for receiving the primary flow, the first outlet being in fluid communication with the inlet; and

a plenum separate from the inlet for receiving the secondary flow, a plurality of upper orifices in an upper part of the plenum, a plurality of lower orifices in a lower part of the plenum, and a plurality of channels extending from the orifices to a plurality of outer outlets, wherein the outer outlets define second outlets.

29. (Original) The apparatus of claim 22 wherein the distributor comprises:

an annular body having a plurality of annular steps;

an inlet extending through the body for receiving the primary flow, the first outlet being in fluid communication with the inlet;

a plenum separate from the inlet for receiving the secondary flow, a plurality of upper orifices in an upper part of the plenum, and a plurality of lower orifices in a lower part of the plenum; and

a plurality of channels extending from the orifices to a plurality of outer outlets at the steps of the annular body, the outer outlet defining second outlets.

30-47. (Cancelled)

48. (Previously Presented) A reaction vessel for an electrochemical processing chamber used to process microelectronic workpieces, comprising:

a container having an upper portion with a workpiece processing zone;

a plurality of compartments in the lower portion of the container including at least a first electrode compartment and a second electrode compartment separate from the first electrode compartment through at least a portion of the container, the electrode compartments being configured to contain an electrochemical processing solution;

a plurality of separate electrodes including at least a first electrode in the first electrode compartment and a second electrode in the second electrode compartment;

at least a first ion-membrane between the first electrode and the workpiece processing zone, the first ion-membrane being configured to allow selected ions to pass across the first ion-membrane; and

a fluid flow system configured to direct a first fluid flow through the first and second electrode compartments and to direct a second fluid flow through the upper portion of the container, wherein the ion-membrane separates the first fluid flow from the second fluid flow and is at least substantially impermeable to fluids of the first fluid flow and the second fluid flow.

49. (Previously Presented) The reaction vessel of claim 48, further comprising a second ion-membrane at the second electrode compartment between the second electrode and the workpiece site, and wherein the second ion-membrane is configured to allow the selected ions to pass across the second ion-membrane.

50. (Original) The reaction vessel of claim 48, further comprising:

a first annular wall inside the container and a second annular wall inside the container, the second annular wall being between the first annular wall and the outer wall, and wherein a first annular space between the first annular

wall and the second annular wall defines the first electrode compartment and a second annular space outside of the second annular wall defines the second electrode compartment; and

wherein the first electrode is a first annular electrode in the first electrode compartment, and the second electrode is a second annular electrode in the second electrode compartment.

51. (Previously Presented) The reaction vessel of claim 48, wherein:

the reaction vessel further comprises a first annular wall inside the container and a second annular wall inside the container, the second annular wall being between the first annular wall and the outer wall, and wherein a first annular space between the first annular wall and the second annular wall defines the first electrode compartment and a second annular space outside of the second annular wall defines the second electrode compartment; and

the first electrode is a first annular electrode in the first electrode compartment, and the second electrode is a second annular electrode in the second electrode compartment.

52. (Cancelled)

53. (Cancelled)

54. (Previously Presented) The reaction vessel of claim 48 wherein the first ion-membrane is impermeable to fluids in the processing solution.

55. (Previously Presented) The reaction vessel of claim 48 wherein the first ion-membrane is permeable to fluids in the processing solution.

56. (Previously Presented) The reaction vessel of claim 48, further comprising:

a dielectric field shaping unit in the reaction vessel configured to receive the processing solution, the field shaping unit having first and second walls configured to define the first and second electrode compartments, and the first wall having an opening.

57-64. (Cancelled)

65. (Previously Presented) An apparatus for electrochemically processing a microelectronic workpiece, comprising:

a processing station comprising -

a head assembly having a contact assembly configured to hold a microelectronic workpiece in a processing position and a plurality of contacts configured to contact a portion of the workpiece in the processing position; and

a processing chamber having a reaction vessel;

a first outlet configured to introduce a primary flow of a first processing solution into the reaction vessel;

at least one second outlet configured to introduce a secondary flow of a second processing solution different than the first processing solution into the reaction vessel separate from the primary flow;

a dielectric field shaping unit in the reaction vessel coupled to the second outlet to receive the secondary flow, the field shaping unit being configured to contain the secondary flow separate from the primary flow through at least a portion of the reaction vessel, and the field shaping unit having at least one electrode compartment through which the secondary flow can pass while the secondary flow is separate from the primary flow;

an electrode in the electrode compartment; and

an ion-membrane carried by the field shaping unit downstream from the electrode, the ion-membrane being in fluid communication with the second flow in the electrode compartment, and the ion-membrane being configured to be at least substantially impermeable to fluids of the secondary flow and the primary flow.

66-92. (Cancelled)

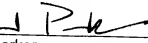
REMARKS

The applicants would like to thank Examiner Wilkens, III, for telephoning the undersigned representative regarding the previous amendment to the priority claim filed under 37 C.F.R. §1.78 (a)(3) with the fee on 21 April 2006. The current amendment to the priority claim in this paper addresses the Examiner's comments.

The applicants respectfully request consideration of the application in view of this supplementary amendment and request that the current amendment to the priority claim be entered under the §1.78 (a)(3) petition filed on 21 April 2006. If the Examiner has any questions or other matters, he is encouraged to contact the undersigned representative at (206) 359-3258.

Dated: August 18, 2006

Respectfully submitted,

By 

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